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| <b>Advisory Action<br/>Before the Filing of an Appeal Brief</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|   | 10/674,647             | CHOE ET AL.         |
|   | <b>Examiner</b>        | <b>Art Unit</b>     |
|   | MARIANNE L. PADGETT    | 1792                |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 16 November 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1.  The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a)  The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b)  The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2.  The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3.  The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

- (a)  They raise new issues that would require further consideration and/or search (see NOTE below);
- (b)  They raise the issue of new matter (see NOTE below);
- (c)  They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d)  They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet. (See 37 CFR 1.116 and 41.33(a)).

4.  The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5.  Applicant's reply has overcome the following rejection(s): See Continuation Sheet.

6.  Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7.  For purposes of appeal, the proposed amendment(s): a)  will not be entered, or b)  will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 26-42.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8.  The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9.  The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10.  The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11.  The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.

12.  Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_

13.  Other: See Continuation Sheet.

/Marianne L. Padgett/  
Primary Examiner, Art Unit 1792

## Continuation of 3. NOTE:

While the proposed amendment clarifies the issue of implanting oxygen ions, it broadens the scope of where implantation occurs by claiming "at least the porous Si-containing region", which necessarily includes the specific location location mentioned as the first alternative (within said porous Si-containing region), and may or may not include the alternative "an interface...", but also essentially includes the entire silicon-containing substrate, width , depth, etc., thus raises new issues & possible new matter considerations. Deletion of "at least" appears an appropriate cure.

With respect to the amendment of the effects of the claimed annealing process in independent claims, the the examiner apologizes for not noticing a problem with this phrasing in the 5/15/09 action, since intended meaning lacks clarity in that it is uncertain what is meant by "how contains voids"; i.e. is this intended to be new voids or continuing existence of old voids, since a porous material by applicants own definition in [0026] or [0013] contains voids, which are the equivalent of vacancies. Noting that [0043] discusses remaining pores (i.e. voids) collapsed into several large voids (relative term problem), thus it would appear this issue could be clarified by insertion after "voids" of --, created by the collapse of previously existing pores in the porous Si-containing region -- or analogous supported language.

## Continuation of 5. Applicant's reply has overcome the following rejection(s):

The proposed amendment corrects some of the clarity/New Matter/enablement issues as set forth in sections 3-5 of the action mailed 9/15/2009, such as replacing the unsupported "atoms" by the supported "ions"; by removing the inconsistent reference to "wafer"; by canceling claim 38, however creates new problems.

## Continuation of 11. does NOT place the application in condition for allowance because:

Besides new problems created, as the specification's & claims' definition of a porous semiconductor material (e.g. Si-containing in [0026]) essentially encompasses virtually all Si -containing semiconductor materials in the real world, but the specification provides no evidence that applicant's process will actually be effective on all such semiconductor material included in the specifications' extraordinarily broad definition of porous, only on those that have been treated to effect their porosity by the taught anodization process ([0012-13] on page 4 or [0026-33] on pages 6-7), thus this issue remains a problem in the claims as presently written. This problem could be removed by inserting after "forming a porous... substrate" a requirement such as --, via electrolytic anodization of a Si-containing region having n-type dopant or p-type dopant --.

Applicants have argued that they do not need to include information that is well known in the art, however the claimed porosity included by the claimed porous region, as previously discussed is not consistent with what is typically considered porous, so does not rise to the argued standard.

## Continuation of 13. Other:

Note in the second line of the annealing limitation of independent claim 26 (analogously in 31 or 36) that "said implanted oxygen precipitates" should for proper antecedent basis actually be -- said implanted oxygen ions precipitate --, with correction of verb for agreement.

X attached interview Summery, PTOL-413B

/MLP/dictation software

11/24/2009